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Entrustable Professional Activities:
For milestones in early anaesthesia training

Session outline

- Introducing EPAs
- EPAs for the IAC: our experience
- The IAC and IACOA for 2021

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Competency-based training

- Standardisation
- Quality assurance
- ‘Objectivity’

- Multiple ‘competencies’
- Multiple WPBAs

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A-CEX		
Assessment Code	*Assessment*	*Trainer/Date*
IAC_A01	Preoperative assessment of a patient who is scheduled for a routine operating list [not urgent or emergency]	
IAC_A02	Manage anaesthesia for a patient who is not intubated and is breathing spontaneously	
IAC_A03	Administer anaesthesia for acute abdominal surgery	
IAC_A04	Demonstrate Rapid Sequence Induction	
IAC_A05	Recover a patient from anaesthesia	

DOPS		
Assessment Code	*Assessment*	*Trainer/Date*
IAC_D01	Demonstrate functions of the anaesthetic machine	
IAC_D02	Transfer a patient onto the operating table and position them for surgery [lateral, Lloyd Davis or lithotomy position]	
IAC_D03	Demonstrate cardio-pulmonary resuscitation on a manikin	
IAC_D04	Demonstrates technique of scrubbing up and donning gown and gloves	
IAC_D05	Basic competencies for pain management – manages PCA including prescription and adjustment of machinery	
IAC_D06	Demonstrates the routine for dealing with failed intubation on a manikin	

CBD		
Examine the case-notes. Discuss how the anaesthetic plan was developed. Ask the trainee to explain their approach to preoperative preparation, choice of induction, maintenance, post operative care. Select one of the following topics and discuss the trainees understanding of the issues in context.		
Assessment Code	*Assessment*	*Trainer/Date*
IAC_C01	Discuss the steps taken to ensure correct identification of the patient, the operation and the side of operation	
IAC_C02	Discuss how the need to minimise postoperative nausea and vomiting influenced the conduct of the anaesthetic	
IAC_C03	Discuss how the airway was assessed and how difficult intubation can be predicted	
IAC_C04	Discuss how the choice of muscle relaxants and induction agents was made	
IAC_C05	Discuss how the trainee's choice of post-operative analgesics was made	
IAC_C06	Discuss how the trainee's choice of post-operative oxygen therapy was made	
IAC_C07	Discuss the problems emergency intra-abdominal surgery causes for the anaesthetist and how the trainee dealt with these	
IAC_C08	Discuss the routine to be followed in the case of failed intubation	

A-CEX		
Assessment Code	*Assessment*	*Trainer/Date*
OB_BTC_A01	Basic Competencies for Obstetric Anaesthesia – conduct epidural analgesia for labour [12-24 months]	
OB_BTC_A02	Basic Competencies for Obstetric Anaesthesia – conduct regional anaesthesia for caesarean section [12-24 months]	
OB_BTC_A03	Basic Competencies for Obstetric Anaesthesia – conduct general anaesthesia for caesarean section [12-24 months]	

DOPS		
Assessment Code	*Assessment*	*Trainer/Date*
OB_BTC_D01	Basic Competencies for Obstetric Anaesthesia – top up epidural for labour analgesia [12-24 months]	
OB_BTC_D02	Basic Competencies for Obstetric Anaesthesia – top up epidural for caesarean section [12-24 months]	
OB_BTC_D03	Basic Competencies for Obstetric Anaesthesia – Perform spinal anaesthesia [12-24 months]	

CBD		
Assessment Code	*Assessment*	*Trainer/Date*
OB_BTC_C01	Discuss how changes in the anatomy and physiology due to pregnancy influenced the conduct of anaesthesia	
OB_BTC_C02	Discuss whether pregnancy influenced the choice of drugs used during anaesthesia	
OB_BTC_C03	Discuss how the conduct of general anaesthesia is affected by late pregnancy	
OB_BTC_C04	Examine the case records of a patient that the trainee has anaesthetised for operative delivery in a situation where major haemorrhage might be expected. Discuss the factors that influence the likelihood of major obstetric haemorrhage, the precautions that should be taken to deal with it and the principles of its management.	
OB_BTC_C05	Examine the case records of a patient with pregnancy associated hypertension that the trainee has treated. Discuss how this influences anaesthetic management.	
OB_BTC_C06	Examine the case records of a patient for whom the trainee provided extradural analgesia for normal labour. Discuss the methods of pain relief available for normal delivery.	

- Safe general anaesthesia with spontaneous respiration to ASA 1-2 patients for uncomplicated surgery in the supine position
- Safe rapid sequence induction for ASA 1-2 patients aged 16 or older and failed intubation routine
- Safe perioperative care to ASA 1E – 2E patients requiring uncomplicated emergency surgery

- Safe administration of epidural/CSE for pain relief in labour
- Safe administration of epidural top-up for an emergency caesarean section
- Safe administration of spinal/CSE for elective or emergency caesarean section
- Safe administration of general anaesthesia for elective or emergency caesarean section

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‘The College Tutor’s headache…’

- Preassessment ✓
- Machine check ✓
- Hypnotics ✓
- Relaxants ✓
- Anti-emetics ✓
- RSI ✓
- Positioning ✓
- Acute intra-abdo surgery ✓
- Pain ✓

→ 22:00, Saturday night, lap appendix, young 90kg male

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What was our solution?

Formal curriculum

- Competencies
- WPBAs

Hidden curriculum

- Expert judgement of trainers
- Patient safety
- ‘Communities of practice’

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The unintended consequences...

- box ticking mentality
- reduction in motivation
- lack of transparency
- tensions between learners and trainers

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Adv in Health Sci Educ (2016) 21:455–473
DOI 10.1007/s10459-015-9614-0

REVIEW

Workplace-based assessment: a review of user perceptions and strategies to address the identified shortcomings

Jonathan Massie[1] · Jason M. Ali[2]

- Review of 935 papers between 2005 and 2015 [1]
- Trainees consistently report WPBAs as a 'hoop-jumping exercise'
- 'Assessments' not felt to support learning

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Entrustable Professional Activities

'A clinical activity which a trainee can be trusted to complete with indirect supervision once they have demonstrated the necessary competence'

(Olle ten Cate, 2005)

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2010 curriculum

- Preassessment ✓
- Machine check ✓
- Hypnotics ✓
- Relaxants ✓
- Anti-emetics ✓
- RSI ✓
- Positioning ✓
- Acute intra-abdo surgery ✓
- Pain ✓

EPA based curriculum

Anaesthesia for ASA I/II patient
(uncomplicated surgery)

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Capturing expert judgement

1	Direct supervisor involvement, physically present in theatre throughout
2A	Supervisor in theatre suite, available to guide aspects of activity through monitoring at regular intervals
2B	Supervisor within hospital for queries, able to provide prompt direction/assistance
3	Supervisor on call from home for queries able to provide directions via phone or non-immediate attendance
4	Should be able to manage independently with no supervisor involvement (although should inform consultant supervisor as appropriate to local protocols

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Curriculum development for the workplace using Entrustable Professional Activities (EPAs): AMEE Guide No. 99

Olle ten Cate, Huiju Carrie Chen, Reinier G. Hoff, Harm Peters, Harold Bok & Marieke van der Schaaf

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Developing EPAs for the IAC

What do we expect a CT1 to be able to do on call?

'Job analysis with an educational purpose in mind'

[3]

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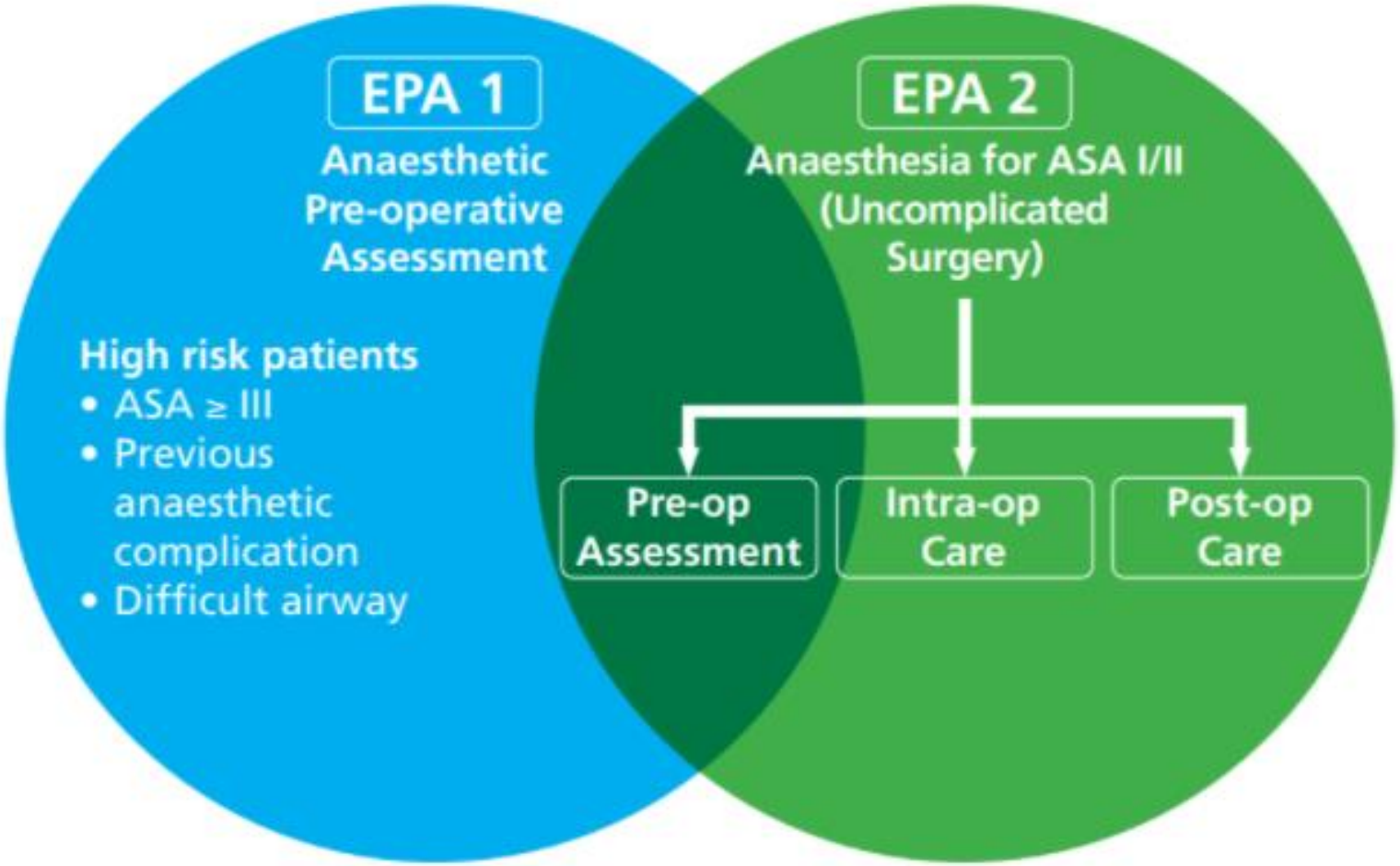

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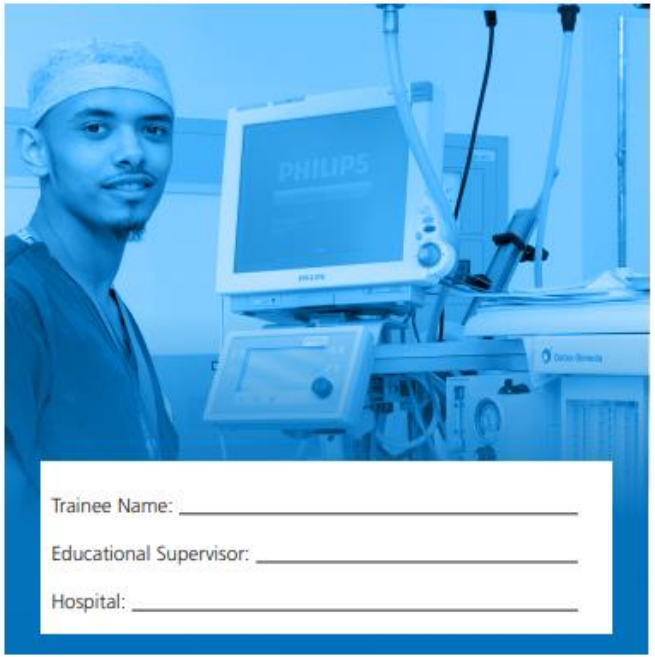
KSS RCOA Royal College of Anaesthetists SESA

Entrustable Professional Activities for the Anaesthetic Novice Period



2019 pilot project

- 7 sites (South east and York)
- 29 trainees
- 149 consultants

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Learning activities

- Supervised learning events
- Simulation
- Novice courses

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Supervised Learning Events

- **No minimum number**
  - Regular participation

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EPA 2: SUPERVISED LEARNING EVENT

EPA 2: Anaesthetic care for an ASA I/II patient having uncomplicated urgent/emergency surgery

Date of activity:

Case description:

Feedback discussion:

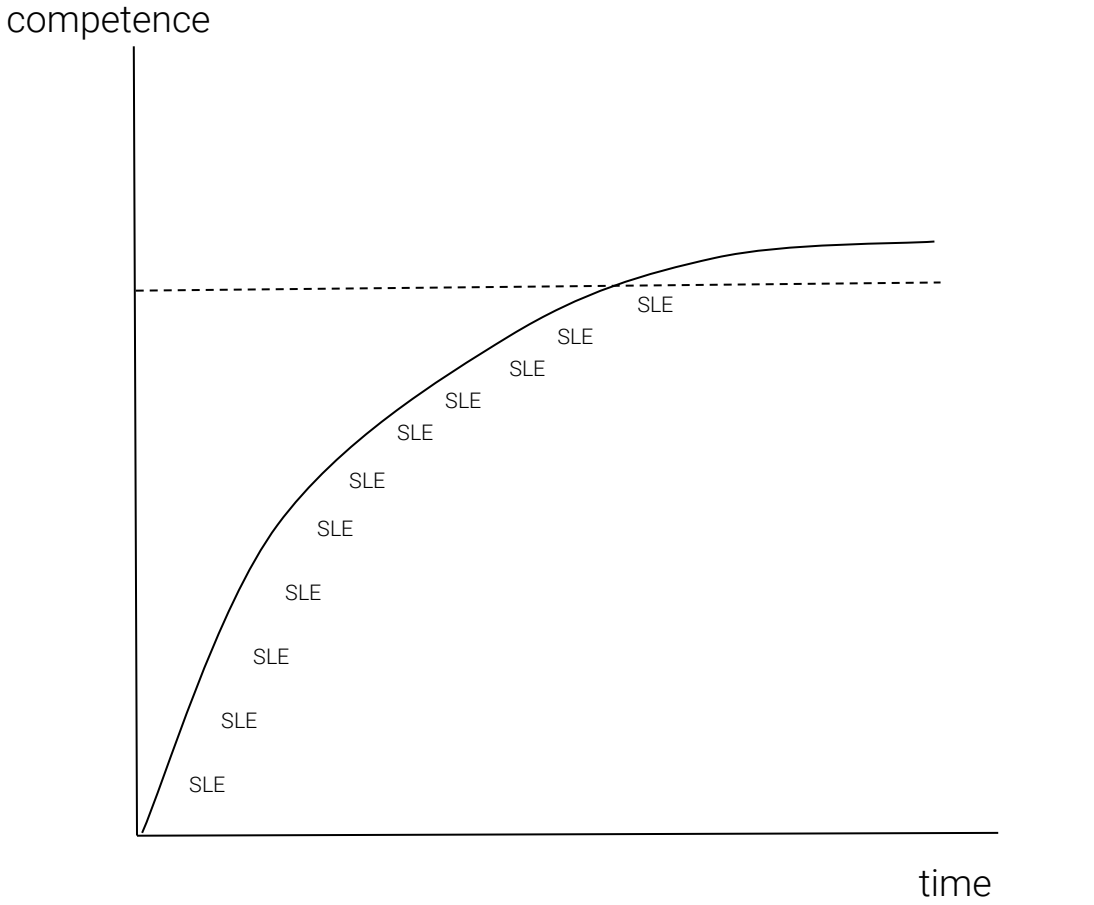
Agreed learning objectives:

Current Supervision required for EPA 2 - *(please tick below)*

- ☐ **Level 1:** Permission to act with direct proactive supervision in the room
- ☐ **Level 2:** Permission to act with indirect supervision (consultant inside hospital)
- ☐ **Level 3:** On-call activity (consultant at home, SpR in hospital)

Consultant name: .....

Signature: ..... Date: .....



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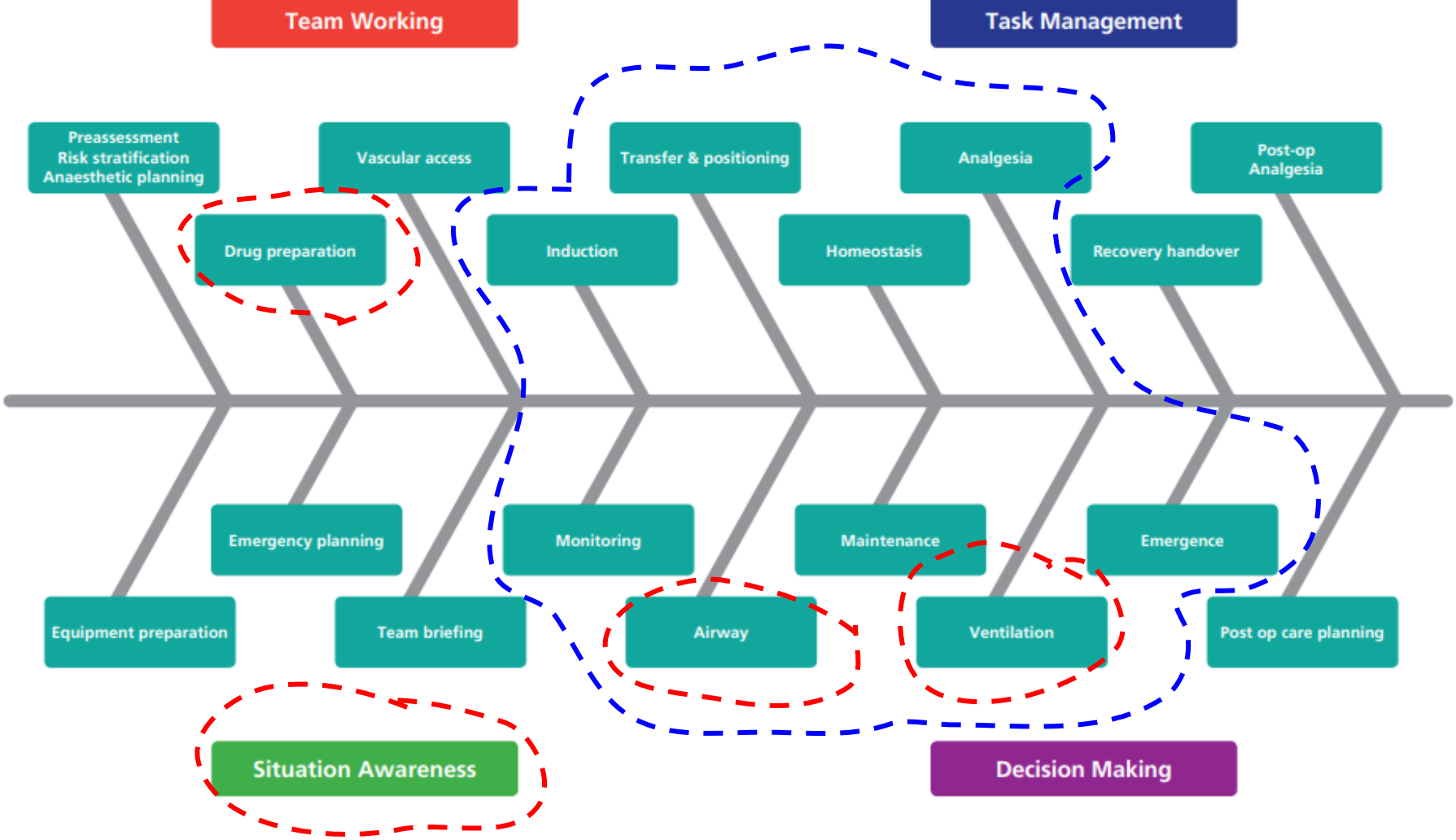

Figure 5: 'Fishbone' diagram for EPA 2

Supervised Learning Events

- **No minimum number**
  - Regular participation

- Guidance offered

- Anaesthetic drug discussions
- Anaesthetic machine check

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Novice training faculty

- Small group of designated trainers
- Supervision of training lists
- Educational supervision
- Summative assessment

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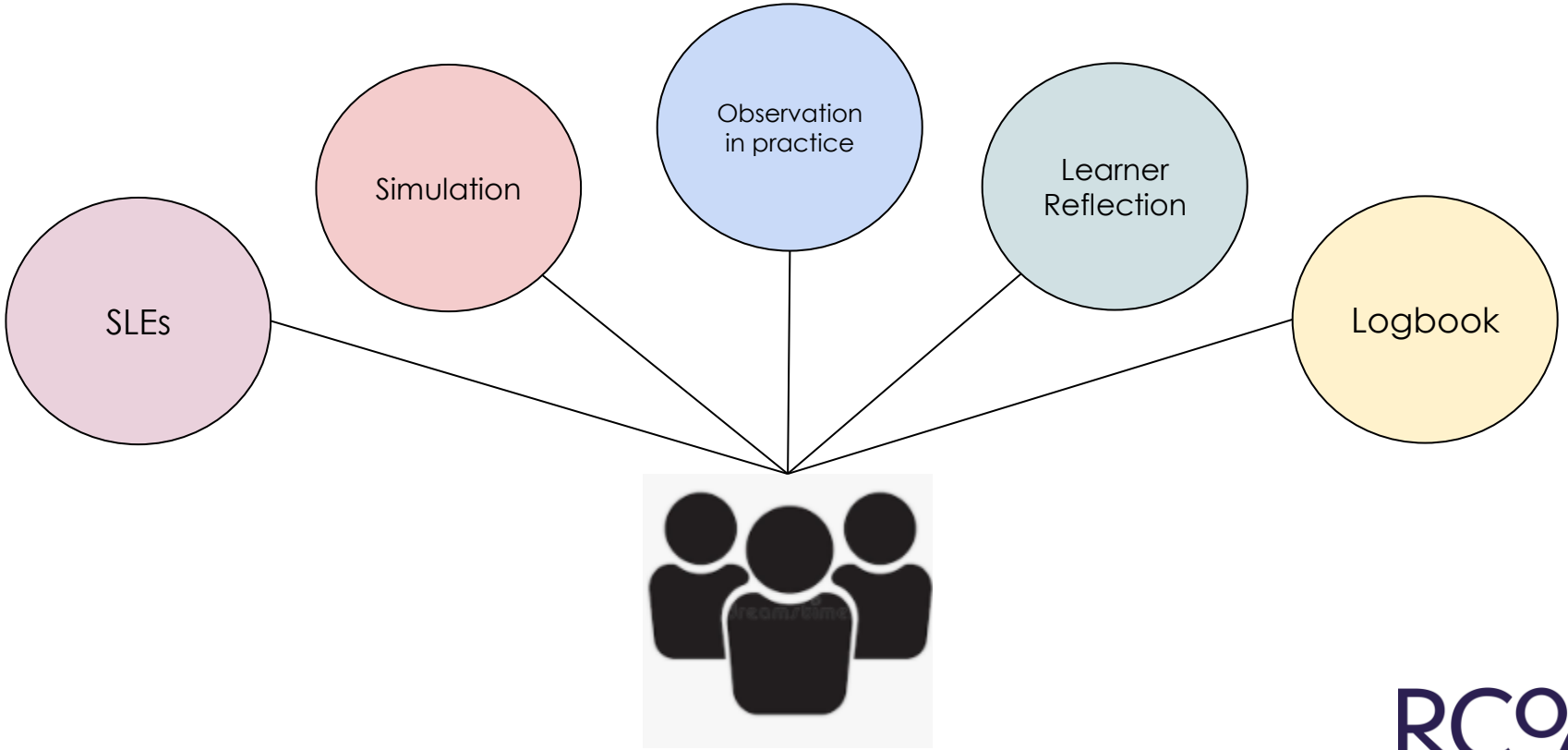
Summative assessment



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Level 1: Permission to act with direct proactive supervision in the room
Level 2: Permission to act with indirect supervision
(consultant inside hospital)
Level 3: On-call activity (consultant at home, SpR in hospital)

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Curriculum evaluation

- Mixed methods
  - Questionnaires
  - Analysis of trainee workbooks
  - Focus groups

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Learning objectives better suited to clinical practice

Focus group, Consultant 6: *'splitting up in the EPA really describes the whole package, you know, a whole delivery of a package of care.'*

Questionnaire, Site 5 Trainee 1: *'Much more holistic approach to feeling 'independent' instead of focusing on specific aspects'*

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A focus on feedback

Focus group, Trainee 5: *'I much prefer... getting proper feedback from consultants about where you actually are, instead of just being like, yes, you're able to put an LMA in. Congratulations.'*

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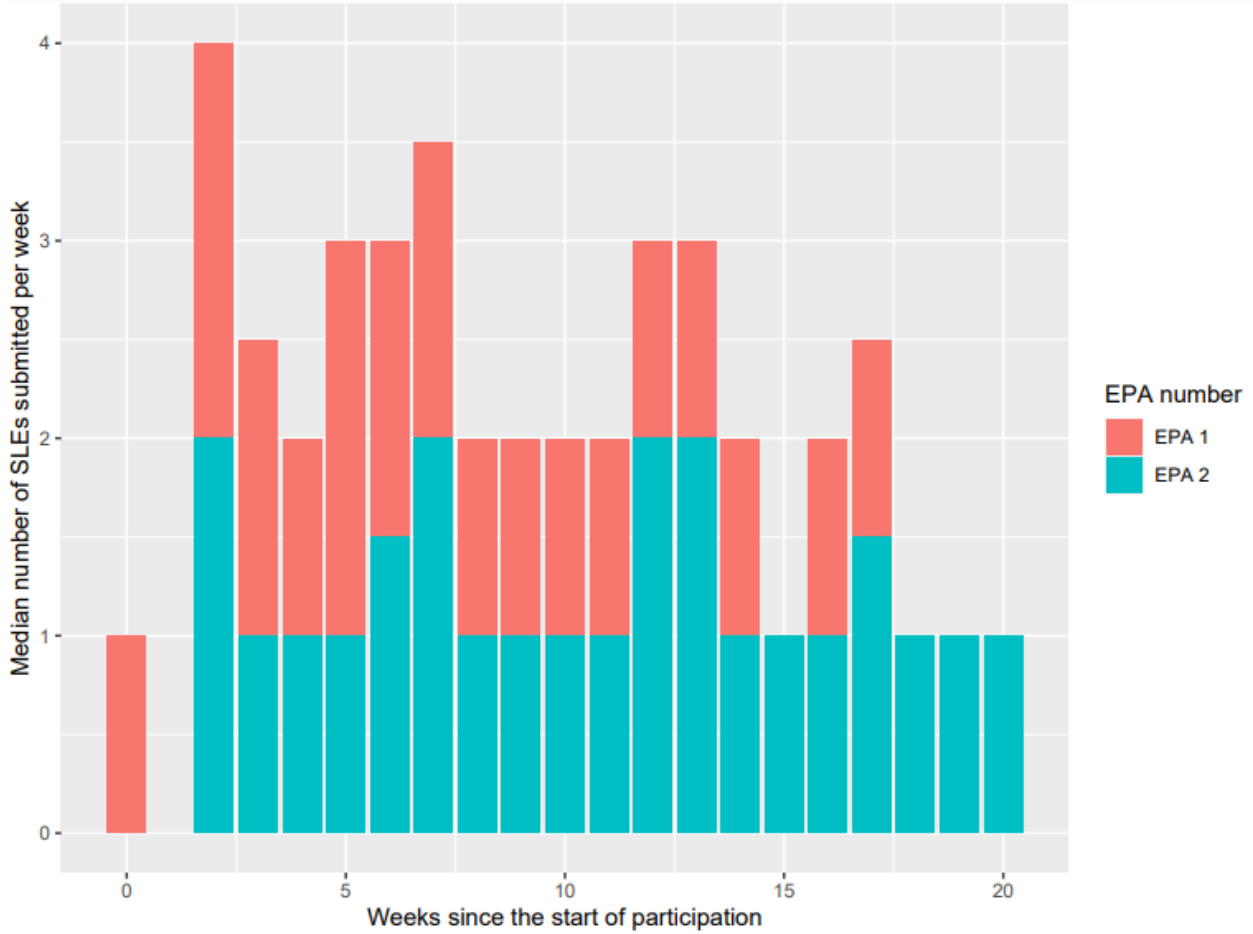
Consistent participation



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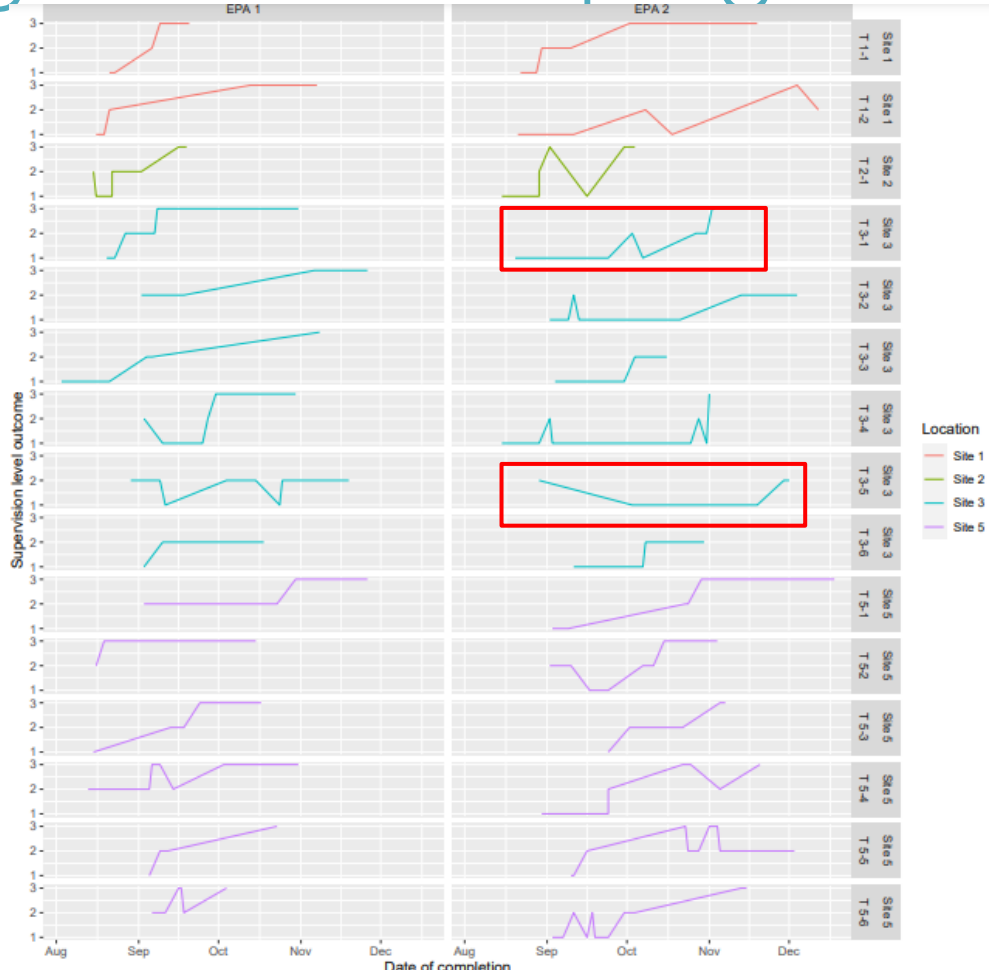
Capturing evidence of progression



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Novice training faculties

Questionnaire, Site 2, Trainee 2: *'They could give feedback on your progress from week to week which made it more meaningful and it was easier for them to let you do more with the patient each time.'*

Focus group, Consultant 5:*'You see what some of your colleagues have written and what level they felt the trainee had got to and then you're able to then push them that bit further.'*

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Space for expert judgement

Focus group, Consultant 6: *'I think from a college tutor perspective... they can all collect 19 bits of paper and...present them to you. And then at that point, what do you do?'*

Focus group, Consultant 5: *'Gut feeling on paper really, isn't it?'*

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Summary

- **EPAs were intuitive and applicable to practice**
- **SLEs for formative assessment**
  - gave learners greater freedom
  - encouraged regular participation
  - improved feedback
  - captured evidence of progression
- **Novice training faculties**
  - help create a positive learning environment
  - perform summative assessment

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EPAs for 2021…

Initial Assessment of Competence (IAC)

- **EPA 1**: Performing an anaesthetic pre-operative assessment
- **EPA 2**: General Anaesthesia for an ASA I/II patient having uncomplicated surgery

Initial Assessment of Competence in Obstetric Anaesthesia (IACOA)

- **EPA 3**: Administration of pain relief for labour
- **EPA 4**: Anaesthesia for obstetric operative procedures including category 1-3 LSCS

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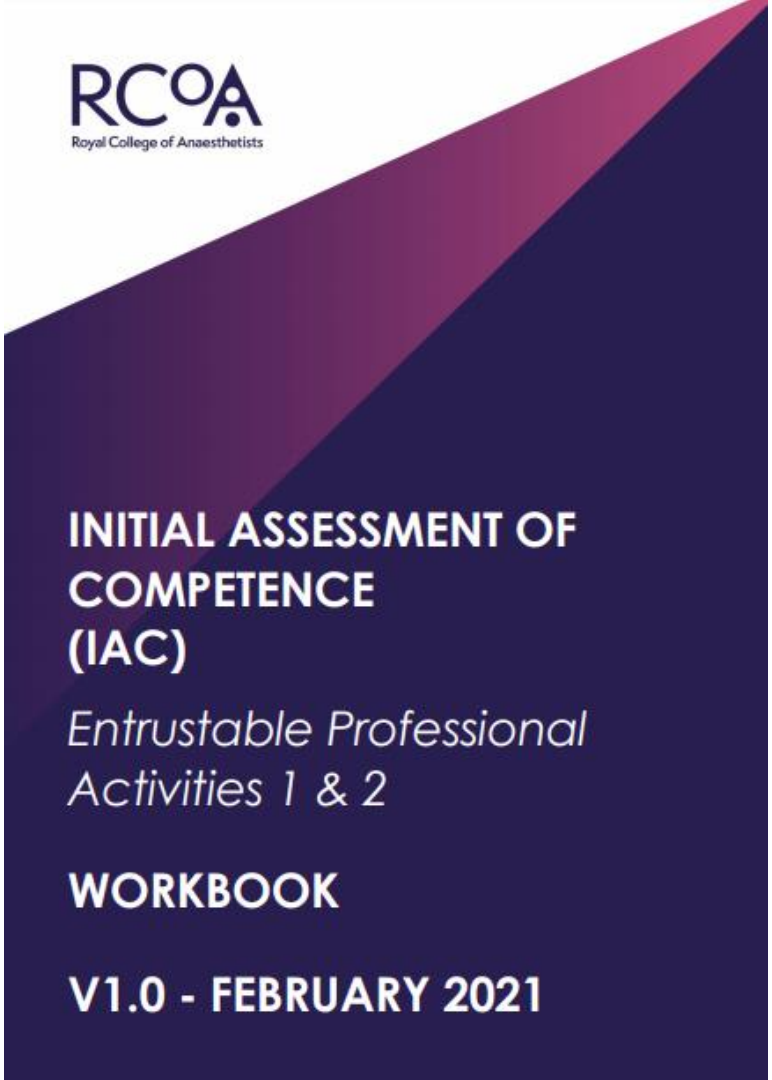

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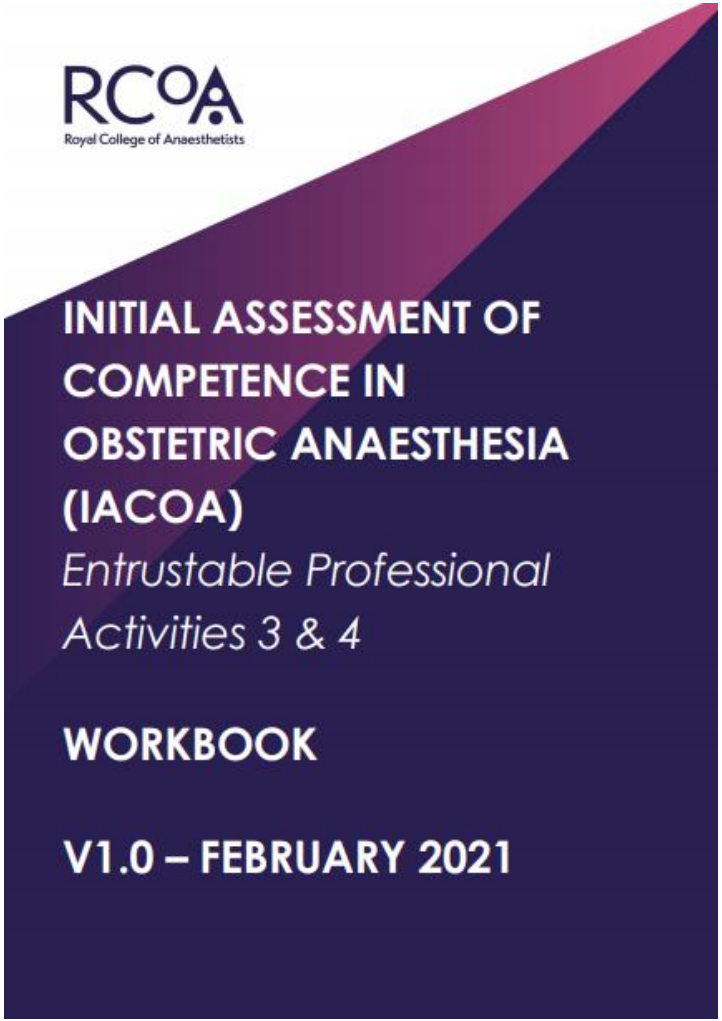

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Principles of workplace learning and assessment

Portfolio of evidence

- Supervised learning events
- Simulation
- Personal activities
- Personal reflections

Summative Assessment

- Assessment faculty
- Multiple Trainer Report

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EPA 2: General Anaesthesia for an ASA I/II patient having uncomplicated surgery

The intention of this EPA is that you are able to provide general anaesthesia for ASA I/II patients having uncomplicated surgery. This is to prepare you to care for low risk patients having unplanned, urgent or emergency surgery, while carrying out your on call duties. You must be capable of performing at Supervision level 2B, with a supervisor (Consultant or StR) within the hospital for queries and able to provide prompt direction/assistance.

At the end of this training period you will be able to:

- understand your scope of practice as an inexperienced practitioner and seek help appropriately
- plan and deliver general anaesthesia to appropriate patients including the following techniques:
  - airway management with supraglottic devices and endotracheal intubation;
  - spontaneous and controlled ventilation;
  - rapid sequence induction
- prepare and check emergency drugs and equipment commonly used in anaesthetic practice
- independently check and use a standard anaesthetic machine
- manage tracheal extubation, including common complications occurring during emergence from anaesthesia; eg, laryngeal spasm
- manage acute postoperative pain including the use of rescue opiates in recovery and patient controlled analgesia
- demonstrate understanding and capability in Anaesthetic Non-technical Skills
- initiate management of common anaesthetic emergencies, including unanticipated difficult airway management, and call for senior help.

Limitations

- Does not include the unsupervised management of previously fit patients with significant physiological derangement such as septic shock or acute blood loss
- you are not expected to be the sole anaesthetist responsible for elective operating lists.

Areas of knowledge to be covered

- Knowledge underpinning EPA 1 (Anaesthetic Pre-operative assessment) to enable safe perioperative care planning
- starvation policies for administration of general anaesthesia
- working knowledge of commonly used anaesthetic equipment, including the anaesthetic machine, standard monitoring and airway equipment
- working knowledge (including preparation/dosage/effects/side-effects/cautions) of the commonly used classes of anaesthetic drugs:
  - induction agents
  - muscle relaxants/reversal agents
  - volatile anaesthetic agents
  - analgesics
  - antiemetics
  - sympathomimetics/anticholinergics
- Difficult Airway Society Algorithm
- physiological effects of general anaesthesia
- physiological consequences of common surgical techniques including laparoscopic surgery

Sources of Information used to assess Progression

Summative entrustment decisions will be based on the sources of information contained in Table 4. Some skills are assessed through simulation (see appendix for IAC Simulation Training Requirements).

Type of Evidence	Examples

Supervised learning events	• Regular completion of A-CEXs, DOPS & CBDs to capture the learning process and demonstrate the core knowledge, skills, attitudes and behaviours outlined above (see figure 3 for guidance)
	• these should always include:
	  ○ Anaesthetic Machine Check (DOPS)
	  ○ Core Anaesthetic Drugs (A-CEX/CBD)
	  ▪ induction agents
	  ▪ muscle relaxants/reversal agents
	  ▪ volatile anaesthetic agents
	  ▪ analgesics
	  ▪ antiemetics
	  ▪ sympathomimetics/anticholinergics.

Personal Activities & Simulation	• Simulation training requirements for EPA 2 (see appendix)
	  ○ novice anaesthesia skills and drills
	  ○ assessment of failed intubation drill
	• attendance at relevant courses and in-house teaching covering topics relevant to EPA 2.

Logbook of cases	• Appropriate number of cases, range of exposure to common surgical techniques and evidence of independent practice.
Reflections	• On difficult or challenging cases showing what was learned about how this influenced future practice
Multiple Trainer Report	• Assessment of progress for stage of training. • this will report on generic professional capabilities and knowledge and understanding relevant to EPA 2. ***NB: only one MTR, covering capabilities for both EPA 1 & 2, is required for the award of the IAC.***

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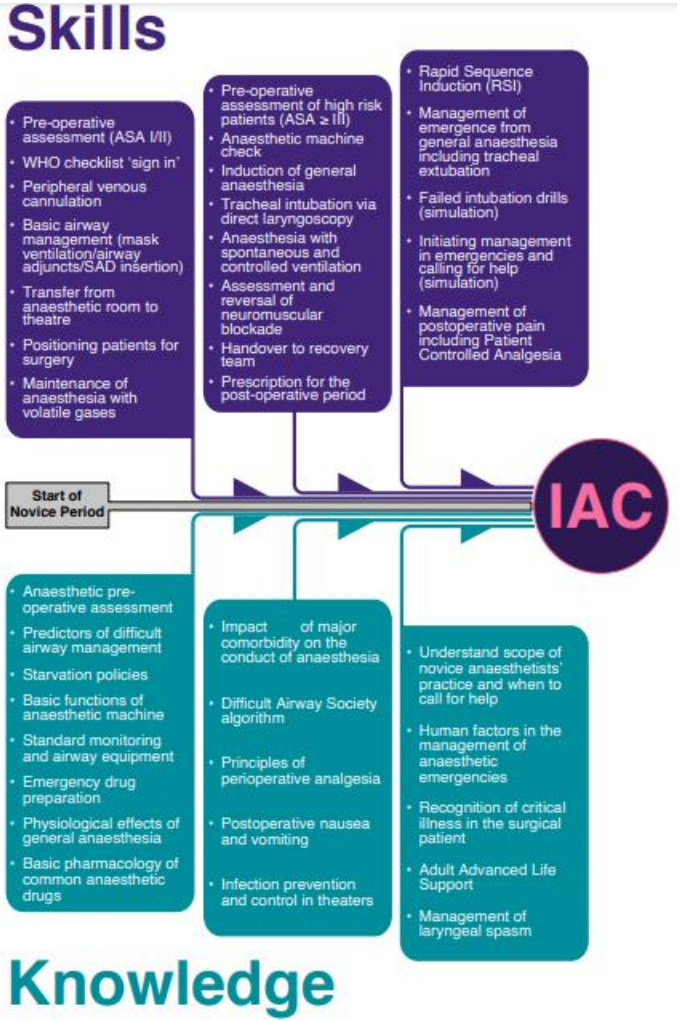

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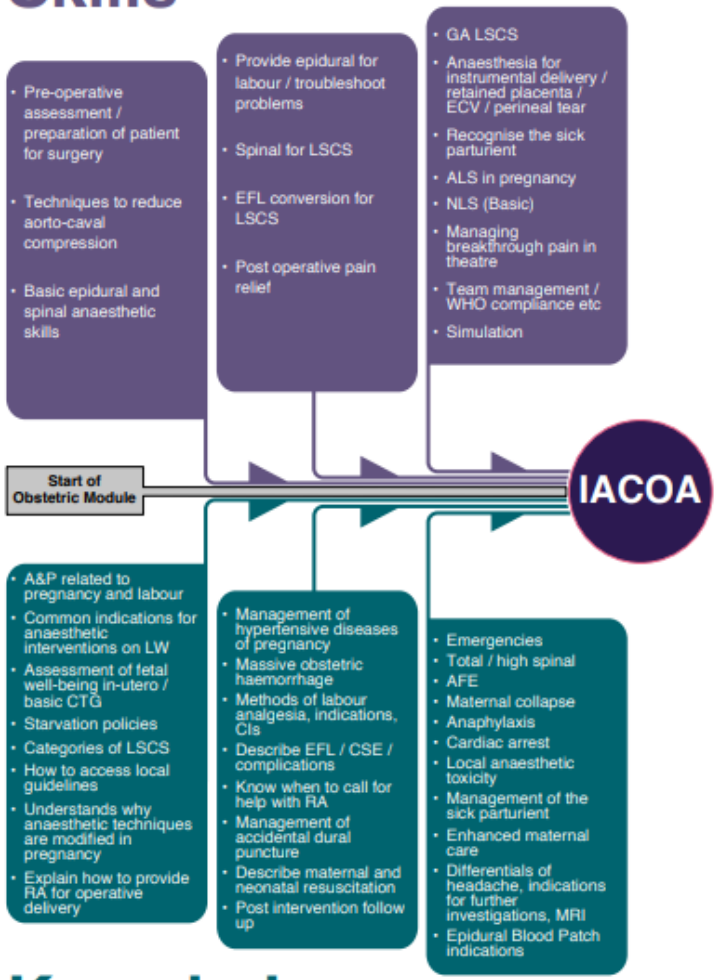
Skills



Knowledge

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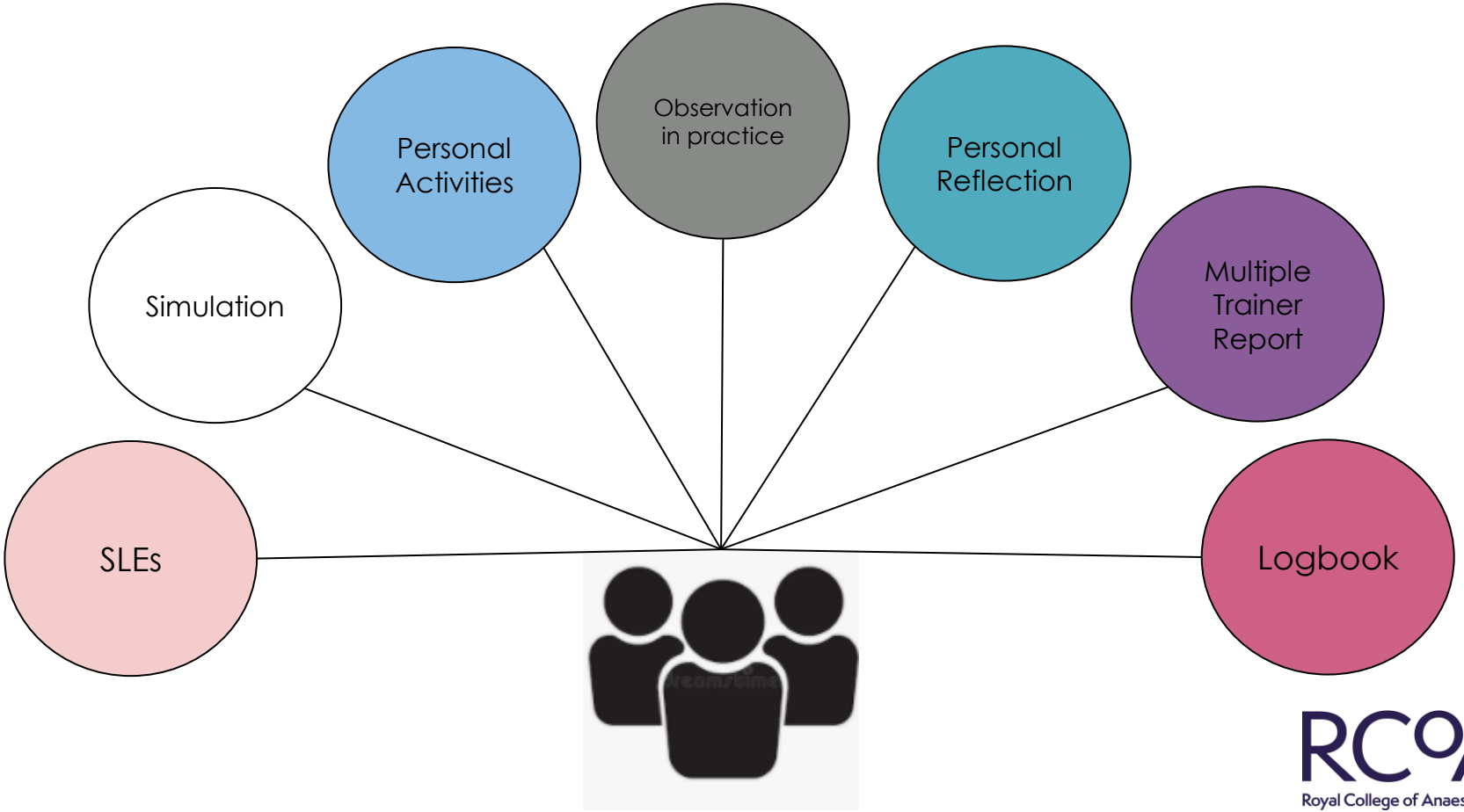
Summative assessment



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IAC: EPA 1 & EPA 2

1	Direct supervisor involvement, physically present in theatre throughout
2A	Supervisor in theatre suite, available to guide aspects of activity through monitoring at regular intervals
2B	Supervisor within hospital for queries, able to provide prompt direction/assistance
3	Supervisor on call from home for queries able to provide directions via phone or non-immediate attendance
4	Should be able to manage independently with no supervisor involvement (although should inform consultant supervisor as appropriate to local protocols

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IACOA: EPA 3 & EPA 4

1	Direct supervisor involvement, physically present in theatre throughout
2A	Supervisor in theatre suite, available to guide aspects of activity through monitoring at regular intervals
2B	Supervisor within hospital for queries, able to provide prompt direction/assistance
3	Supervisor on call from home for queries able to provide directions via phone or non-immediate attendance
4	Should be able to manage independently with no supervisor involvement (although should inform consultant supervisor as appropriate to local protocols

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EPAs for the IAC & IACOA:

- Closing the gap between the formal and hidden curricula
- **Empowering**
  - learners to take ownership of their training
  - trainers to use their expertise
- Building on the unique learning environment we enjoy in our specialty

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References

1. Massie J & Ali J (2016) Workplace-based assessment: a review of user perceptions and strategies to address the identified shortcomings. Advances in Health Science Education 21:455–473
2. Ten Cate O. Entrustability of professional activities and competency-based training. *Medical Education* 2005;**39**: 1176–7
3. Ten Cate O, Chen HC, Hoff RG, Peters H, Bok H, van der Schaaf M. Curriculum development for the workplace using Entrustable Professional Activities (EPAs): AMEE Guide No. 99. *Medical Teacher*. 2015; **37**: 983-1002

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Any questions?